



WAQTC News

*A periodic report of the Western Alliance for
Quality Transportation Construction*

Summer 2000

What is the WAQTC?

...and where did it come from?

The Western Alliance for Quality Transportation Construction (WAQTC) started with humble beginnings. In the late fall of 1995, Tony Manditch (ODOT) contacted Bob Geitz (WaDOT) and Garth Newman (ITD) about multi-state training. On January 5, 1996, the three states met at FHWA Region 10 in Portland. The outcome of the meeting was that the three states could have like training and maybe it could be held at one location. Each state took the ideas back to their managements, but the problems associated with out of state travel nixed the plan. The three trainers from the DOTs still realized that they could help each other.

In August of 1996, Alaska, Idaho, Oregon, Washington, FHWA Western Federal to discuss what we could do as far as meeting (cont'd on p.7) page

INSPECTION MODULE DEVELOPMENT

Development of the WAQTC Field Inspectors Training Manuals is being undertaken by the University of Nevada on behalf of the WAQTC. Nevada DOT (NDOT) will be administering the University agreement, estimated to cost about \$115,000.00. The development costs will be divided up equally among the WAQTC states and the letter of agreement will be (continued on page 7)

- State Reports -

Alaska

Alaska DOT/PF or a consultant performs all acceptance testing using WAQTC testing procedures and field operating procedures (FOP's). All staff necessary to perform acceptance testing have become WAQTC-qualified this past year. Training was accomplished in a series of two-day training sessions for each module. Next year Alaska DOT plans to focus on getting more of the consultant and contractor community trained and WAQTC-qualified.

Arizona

Arizona has not fully implemented the WAQTC certification program. Currently, materials testing, including quality control and quality acceptance, must be performed by technicians certified by the Arizona Technical Institute (ATI) and the American Concrete Institute. As with many states, Arizona has decided to maintain numerous versions of test methods that vary from standard AASHTO test methods and are not included in the WAQTC program.

A task group is establishing criteria which will allow a technician to receive dual WAQTC and ATI certification. The task group is also establishing a supplemental examination that a WAQTC certified technician can take to become ATI-certified. These programs are expected to be implemented by January of 2001.

California

California has been involved with the Western Alliance since its inception in 1998. They have been reviewing possible implementation plans to bring the alliance on board in California. Since 1994, Caltrans has had an independent assurance program that qualifies testers and laboratories primarily in California Test Methods. Approximately 95% of all tests used in California are California Test Methods. A task group has been

reviewing the implementation of the WAQTC and a meeting will be held in August to discuss their findings.

Colorado

Colorado DOT has started our second year of the certification process in WAQTC. At this time, Colorado certifies technicians in only the Embankment and Base module of WAQTC to satisfy the Code of Federal Regulations (23 CFR) for soils testing. Colorado uses American Concrete Institute (ACI) for concrete certification and Colorado Asphalt Producers Association (CAPA) for asphalt certification. At present, Colorado has provided thirty, one-day certification classes consisting of a procedural review class, written exam, and practical exam. A total of 199 individuals have been certified in the Embankment and Base module. Currently CDOT does not offer any technician training courses, however, CDOT and the private sector do provide training from certified instructors within their organization.

Hawaii

Hawaii is using a lot of material from WAQTC. However, it is not qualifying their people using the WAQTC modules because they have deleted some of the test methods that they do not perform. They have five modules, 1) asphalt, 2) concrete, 3) soil 4) aggregate and 5) field sampling and testing. The first four modules are basically for technicians performing tests in the laboratory and module five is for field personnel, who perform sampling and testing at the construction site. Hawaii DOT has qualified their laboratory technicians and field personnel, about 70 people. By the end of July 2000, they will complete qualifying state-hired consultants and private laboratory personnel in module five, about 40 people. Qualification involves passing a written and performance examination. For State people only, they do a brief review of the test methods before taking the written and performance examination. In a few months they will offer qualification for module five to the county government personnel.

Idaho

The Idaho Transportation Department (ITD) implemented the Western Alliance Quality Transportation Construction-Transportation Technician Qualification Program (WAQTC-TTQP) in March 1998, shortly after its development. One of the first steps in implementing the program was eliminating all of the Idaho Test Methods involved and adopting the

AASHTO Methods. This proved easier than imagined because, like most states, the Idaho Test Methods were either rewritten or were slight modifications of the AASHTO methods.

In Idaho, we require that all personnel wanting to become qualified go through training before taking their initial qualification exams. (To requalify, personnel are required to sit for the written and performance exams only.) The training is presented in each of ITD's six districts by subject matter experts. Qualification training, with written and performance testing, lasts from three to five days. The performance-testing day normally requires three to four proctors to monitor and score the performance exam.

The student and instructor manuals and PowerPoint presentation have proven to provide uniformity in the presentation of the material. Where, in the past, there was a disparity in the training information provided from district to district, this has been eliminated with this program. With a multi-state program, this is an important factor.

Reciprocity with other states is a big selling point with both the contractor and the consulting community. We have had personnel from Oregon and Utah work in Idaho.

We are pleased with the results we have seen from the WAQTC-TTQP. The administrative manual has been invaluable in guiding the program. We are utilizing the WAQTC web site to track qualified individuals. This has proven to be very handy for ITD's Districts and Resident Engineers in assuring that all the testing and sampling for our projects are being done by WAQTC qualified personnel.

The WAQTC program also has a qualified laboratory function, which we have implemented and produced an ITD Laboratory Qualification Program.

Contact Garth Newman, (208) 334-8039, for more information.

Montana

Montana Department of Transportation (MDT) is up and running with WAQTC. So far, MDT has 313 aggregate technicians, 137 concrete technicians, 38 asphalt technicians, 14 embankment & base technicians,

and 13 in-place density technicians trained. Currently MDT's training and development coordinator is evaluating the technicians in the field and collecting comments on the program. Training will continue this fall with all modules starting with the Embankment & Base module. MDT is convinced that this program will improve the ability of our technicians to do their jobs much better. For additional information, contact M. Thomas Roberts, Training & Development Coordinator -Materials, Helena, Montana (406) 444-6035.

Nevada

Nevada Department Of Transportation (NDOT) has received approval for an interim program through the FHWA, to comply with CFR 637, subpart B. The interim program is expected to be in effect for approximately 1 year. NDOT utilizes it's own personnel and consultants for all acceptance testing; even on the limited number of QA/QC projects, contractor personnel are not used for acceptance testing.

The interim program "grandfathered" in NDOT personnel who had been through NDOT testing school within the last five years. All consultant personnel and NDOT personnel not meeting the interim criteria were sent through a testing program (written test and proficiency test) similar to WAQTC's. Of 49 personnel tested, 16 failed the initial test. Of the 16 initial failures, nine were unable to pass the retest. In general, most personnel have been qualified in all modules; however, some personnel were qualified in specific modules as needed.

NDOT has worked with representatives of local RTC's, cities, contractors and consultants to form the Nevada Alliance for Quality Transportation Construction (NAQTC), a non-profit corporation. This corporation's purpose is the development and implementation of the WAQTC testing program. Members of the corporation will utilize the WAQTC requirements and format for training testing personnel. The corporation solicited proposals for administering the testing and training in April, 2000 and received two responses. The selected proposal team will utilize the resources of consultants, contractors, and the University of Nevada - Reno to administer this program. NDOT will retain oversight of the test materials in this process. Implementation of WAQTC testing is scheduled to begin in November, 2000.

Oregon

The Oregon Department of Transportation is one of the founding members of WAQTC and played a significant role in the program's development. We currently use all the modules in our training and certification program, although there is currently a slight difference in acronym designation due to carryover in previous data bases, specifications and testing manual language.

Nearly all of ODOT's technician training, including the WAQTC program, is currently being provided by the Asphalt Pavement Association of Oregon. The PCC testing module is administered by the Oregon Concrete & Aggregate Producers Association. The programs are set up for the associations to perform the training - with some assistance of ODOT personnel, while ODOT retains responsibility for the testing, evaluations and certification.

ODOT construction projects have been under a full Quality Control / Quality Assurance (QC/QA) Program for the past 5 years. ODOT has the contractors' certified technicians perform all quality control testing, and ODOT performs verification testing on 10% of the contractors tests. If verification tests confirm the contractors, the material is accepted on the contractors' test results. All testing is required to be performed by ODOT-certified technicians, of which the WAQTC program provides the base training and evaluations. In addition, all tests must be performed using equipment and field laboratory facilities that have been inspected and certified by ODOT. If disputes arise between the contractors and the ODOT field testing technicians, the ODOT central lab is used for third party resolution.

In addition to the WAQTC program test methods, ODOT utilizes several other modified or unique test methods. ODOT TM225 - Presence of Wood Waste In Produced Aggregates; ODOT TM227 - Evaluating Cleanness of Cover Coat Material; ODOT TM304 - Nuclear Density/Moisture Gauge Calibration and Effect of Hot Substrate; ODOT TM306 - Determining Target Densities of HMAC Pavement by Control Strip Method; ODOT TM321 - Asphalt Content of Bituminous Mixtures by Plant Recordation; and ODOT TM322- Asphalt Concrete Plant Calibration Procedures.

The major difference between Oregon's program and those of other WAQTC states is the added ODOT-specific certification requirement, primarily for

contract administration duties included in the ODOT QC/QA program. The ODOT program requires the technician to demonstrate testing proficiency on known samples and identify the required tests in reference to ODOT specifications. Also, a written exam is given to demonstrate the needed knowledge to navigate our specifications and documentation procedures.

In addition to the WAQTC testing technician modules, Oregon incorporates two other modules - CMDT (Certified Mix Design Technician) and CAT-II (Certified Asphalt Technician Level II used to troubleshoot asphalt plants and volumetric properties of HMAC products). Training is now provided nearly year around for the WAQTC procedures and the ODOT certification requirements.

Utah

The Utah DOT is moving into its fourth training season which means they will be starting their first round of re-certifications. To date they have conducted 40 training sessions and are tracking 874 qualifications in various modules, which translates into a substantial workload attributed to re-certification alone. In order to offer all the available WAQTC training modules and to keep up with the large volume of re-certifications and other training requests, UDOT decided to contract out all of their technician training. They are currently putting together a Request for Proposals (RFP) with hopes of retaining a consultant to conduct training sessions for all the existing WAQTC modules, new WAQTC modules, Superpave Mix Design and some UDOT only test methods. The UDOT Quality Assurance Section will still administer all the written exams, proctor the performance exams and maintain a TTQP data base. Basically, they will still control all aspects of our TTQP required under the WAQTC Administrative Manual.

Washington

Washington DOT (WSDOT) does all the materials acceptance testing, while the contractors do materials quality control testing. WSDOT uses the WAQTC Test Procedures and WAQTC Field Operating Procedures (FOP)'s when there is not an appropriate AASHTO procedure available. WSDOT also uses the same concept as WAQTC for the make-up of the testing modules. The tester has to successfully pass a written test and a proficiency test before becoming a qualified tester, and testers are re-evaluated annually. WSDOT does not provide the week-long structured training that

is included in the WAQTC program; however, they do offer 1- and 2-day training classes that cover the test procedures and all of the appropriate specifications and paperwork.

Come see the new WAQTC web site

WAQTC (Western Alliance For Quality Transportation Construction) has a web site, <http://www.waqtc.org>. This is an alliance of eleven State DOTs. The site contains information on laboratory and technician qualifications, our administrative manual, contacts list, and WAQTC test methods. A generic copy of the registration, policies, & information handbook can be downloaded on Adobe Acrobat. This handbook contains the basic program that each agency follows. To date, three member States: Alaska, Idaho, and Utah include links to lists of qualified individuals in their States, with other States expected to add this link in the future. In addition, links to each DOT are also contained on this site.

For more information, visit the site and browse. If you still have questions you can e-mail the WAQTC coordinator from the site.

Implementing WAQTC: Utah's Perspective

by Tim Rose, PE

UDOT Engineer for Quality Assurance

Facing any deadline can be daunting. The June 29, 2000 deadline for meeting the requirements of Federal Regulation 23 CFR Part 637 became even more daunting for UDOT officials when they concluded that the existing technician training program was woefully inadequate and may not satisfy federal regulations.

As UDOT's Quality Assurance(QA) Engineer, I was charged with forming a team to develop, implement and support a new QA program which satisfied the new federal requirements. In an unrelated Construction & Materials division reorganization we added two training coordinator positions, and reassigned two additional employees, changing their job responsibilities. Thus, the new QA section was born, and the development of the technician training and certification program began.

We took three basic steps to develop the program. First, we shifted from in-house test methods to primarily AASHTO methods; second, we formed a strategic alliance for training; and third, we spread the word to as many potential participants as possible. We also had to take a hard look at our resources and how we could utilize them more efficiently.

Shifting to AASHTO standard Test Methods

The first task was to replace UDOT modified test methods with AASHTO equivalents where possible. We formed a team of materials engineers, senior materials technicians and an FHWA representative to determine why we were using modified test methods and whether the AASHTO equivalents would suffice. Including the engineers and technicians also helped achieve the employee "Buy-in" which was critical for this team to succeed. After numerous meetings and a great deal of discussion the team eliminated all but ten UDOT modified test methods. This change proved to be a key in the development and acceptance of the new technician training program.

Forming a Strategic Alliance

In the fall of 1997, the Northwest Alliance for Quality Transportation Construction (NAQTC) executive committees invited UDOT representatives to a meeting where they proposed expanding the NAQTC to include all the WASHTO states, and calling it the Western Alliance for Quality Transportation Construction or WAQTC.

The expanded organization would produce a technician training and qualification program which would be accepted reciprocally in all the member states. UDOT officials immediately recognized the advantages of joining such an alliance, and formally joined the WAQTC shortly after. At that time UDOT received a credible and professionally produced Technician Training and Qualification Program (TTQP) which was implemented immediately.

In the spring of 1998, Idaho DOT's Garth Newman conducted a course for UDOT QA Section training coordinators, which allowed us to begin a limited in-house TTQP schedule. The initial training and qualification sessions were so successful, and we created a comprehensive schedule for the 1998-99 training season.

We implemented a full training schedule in the fall of 1999, and currently we are tracking 600 technician certifications, which includes 150 certifications for technicians from private laboratories. We are now informing all local government entities of our technician training and qualification program..

Spreading the Word

The QA team spoke at various conferences and sent out hundreds of TTQP information packets, all in an effort to inform people about our program and generate as much interest as possible. By emphasizing that the new TTQP was nothing more than an improved, formalized version of our existing qualification program, we alleviated fears regarding the new program. We also pointed out that certification in the new TTQP would be honored by all WAQTC member states. Once the engineers and technicians understood the motivation behind the new TTQP, we got their support and were able to keep the program moving forward.

Where do You Get the Resources?

Your guess is as good as mine. In our case, we had some good fortune and timing. Through a Construction & Materials Division reorganization, the QA Section got two employees who met our needs perfectly, and the corresponding personnel funding for these two positions was transferred to our budget. However, the cost of audio/visual equipment, printing and travel were not included in the budget, so we cut corners on other items to cover the training costs. Also, for the 1999-00 training season we started to charge private industry for training we provided to their technicians. We hope this will offset most of our training costs.

At current staffing levels, we will be unable to implement any further training such as the WAQTC Construction Inspector Training and Laboratory Training modules or the Superpave Mix Design Training which is being developed by the University of Nevada Reno in association with the Rocky Mountain User Producer Group. So we are faced with a problem that I am sure is not unique to Utah - too much work and not enough staff.

A Word to the Wise

Eliminate the "I can't do it", attitude to successfully implement the WAQTC TTQP or any new program. Find ways to eliminate road blocks (no pun intended), and be creative and flexible with personnel and budget allocations. Spread the word about the program to create "Buy-in" from engineers, technicians, and especially administration. Remember too, sometimes

it's easier to beg forgiveness than to get permission. In other words - just do it.

Quality Control Manager Module Update

A task group recently was formed to research and develop a quality control manager module for the WAQTC program. The module is intended to train and qualify personnel in standardized practices of a successful quality control program, as well as the responsibilities of the quality control manager and staff.

The group surveyed training and certification programs throughout the country to see if any similar programs had been successfully implemented. It was found that the New England States Technician Certification Program (NETTCP) is well underway in the development of a training and certification module that will also meet the needs of WAQTC.

The NETTCP program is anticipated to be completed in December 2000 and made available to interested parties shortly thereafter. WAQTC task group members Randy Allenstein and Katherine Petros have been reviewing the NETTCP materials as they are developed and anticipate the module to be ready for WAQTC implementation in mid-2001.

National Coordination for Constr. Technician Training

To focus the efforts and respond to the needs of regional groups and the industry in the area of construction technician training and certification, FHWA has established a national coordination group, chaired by Howe Crockett, FHWA-Western Federal Lands.

The need for coordination is not new. Over the years, joint industry/agency efforts in asphalt and concrete paving have developed materials and National Highway Institute (NHI) training courses. Federal Regulations, 23CFR 637.209(b), require that materials and sampling technicians be qualified. Most States have responded with regional training/ certification programs. The AASHTO Subcommittees for Construction and Materials developed a Standard Recommended Practice for Technician Training and Qualifications Programs.

To accomplish this, a national technician training coordination group has been formed and will have its first meeting September 19-20, 2000, in St. Louis. Included are representatives from regional technician training groups, as well as representatives from industry, FHWA and NHI. The WAQTC is represented by Tom Baker and Garth Newman from the Idaho DOT. The intent of the meeting is to determine current needs and to guide the development of core training that can then be adapted, as needed, for use by the regional groups, DOTs, or other entities. This will focus and coordinate the resources in a productive manner by prioritizing field needs. This national group also will address a similar resolution passed by the AASHTO Subcommittee on Construction last year calling for national training in construction workmanship and materials. If you have any questions, please call Howe Crockett at 360-696-7750 or Ken Jacoby in FHWA's Office of Asset Management at 202-366-6503.

Inspection Module Dev. (Cont'd from page 1)

out for review in the upcoming weeks. The Manuals will be a compilation of the training materials and manuals received from the Inspection Committee member states including California, Idaho, Nevada, Oregon, Utah, Washington and the FHWA.

On May 31, members of the UNR development team, their consultants and representatives from NDOT and Idaho held a meeting to discuss development strategies, answer overall questions and agree upon a schedule. It took about 4 weeks from this meeting to finalize the scope of work and agreement and get the package back to UNR for signatures. The University had expected to begin work on July 3rd, however things have taken a little longer and an early August Notice to Proceed is expected. The total development time is estimated to be 5 months from the notice to proceed.

The materials will be formatted the same as the WAQTC testing program and include four modules consisting of Asphalt Concrete Plant/Road Inspection, Embankment and Soils Inspection, Structures Inspection and Portland Cement Concrete Pavement Plant/Road Inspection. Development of the modules will take place over two phases and cover the outlines developed by the Inspection Committee members last summer in Sacramento. Phase I will develop the student and instructor manuals, PowerPoint presentation and exams. Phase II will include the addition of audio-visual files showing key inspection points, creating a computer-based self-training program. Beta testing, also part of Phase II, should iron out the bugs discovered as the program is being implemented.

The scope of work will include submittals at the 40% and 90% development levels prior to the final submission. These submittals will be sent to the Inspection Committee for comments.

What is WAQTC? (Cont'd from page 1)

Lands(WFL), and FHWA Region 10 got together 23 CFR637 Subpart B. The group saw an opportunity to deal with numerous challenges and adopted a broad mission statement and an organizational name, Northwest Alliance for Quality Transportation Construction (NAQTC). The original Executive

Committee consisted of: Eric Johnson, AkDOT&PF; Howe Crockett, FHWA Region 10; Tom Baker & Garth Newman, ITD; Ken Stoneman, ODOT; Denny Jackson, WaDOT; and Emery Richardson, Western Federal Lands-Highway Division (WFLD-HD).

The committee pinpointed three initial needs:

- 1) Uniformity / standardization of test methods
- 2) The structure of a training and qualification program
- 3) Laboratory qualification of field testing laboratories.

Task groups were formed to work on each of these areas.

In January of 1997 the director of the New England Transportation Technician Certification Program gave a presentation to the Alliance on the development of their program, including program administration and training/qualification materials.

The major immediate accomplishments were the willingness for all agencies to move to using AASHTO test methods, identification of the five qualification areas, and the realization that a consultant was needed to develop the training/qualification materials.

By May 1997, the agencies entered into an agreement to develop training/qualification materials for a Transportation Technician Qualification Program. Bylaws and an operational agreement were developed requiring each agency to be represented on the Executive Committee by an individual with authority to make decisions for that agency. Howe Crockett worked as coordinator and facilitator to keep the Alliance on track and started work on administrative guidelines. A review of the scope of work with the chosen contractor took place. Idaho agreed to serve as contract administrator. Each agency signed a cooperative agreement with the Idaho Transportation Department, and a consultant/contractor was selected to develop training / qualification materials.

By September, the test methods for each of the qualifications had been solidified with the realization that the NAQTC must develop 10 of its own methods due to the AASHTO test's being either out of date or

non-existent. The contractor was busy working on development of the first module, Aggregate Testing Technician Qualification. Each module was to contain Word documents and computer based training. A Critical Path Method plan was developed to evaluate the contractors ability to meet the expected deadlines.

Work continued in earnest through the winter, with the Aggregate module being beta tested in January '98 in Boise, Idaho. Modules were developed in the following order: Aggregate, Concrete, Embankment & Base, In-Place Density, and Asphalt. All materials were completed by mid April 1998.

Qualification in Aggregate in Idaho and Oregon started in the spring of 1998. In March of 1998, Tom Baker (ITD) discussed what the NAQTC was doing at a conference sponsored by Joe Mussucco (FHWA Region 9). This sparked a lot of interest and by June of 98, the NAQTC had become WAQTC (Western Alliance for Quality Transportation Construction) with 10 state DOTs involved. By the fall of '98, the organization reached the size it is today with 11 DOTs (Alaska, Arizona, California, Colorado, Idaho, Hawaii, Nevada, Montana, Oregon, Utah, Washington) and FHWA-WFL. The WAQTC has received recognition and awards from FHWA, Consulting Engineers Council of Oregon and the WASHTO L.I. Hewes Award for Outstanding Contribution to Highway Development, received by Tom Baker.

The status of implementation of WAQTC procedures is contained in the State summaries contained in this document.

***HAVE AN ARTICLE FOR
WAQTC NEWS?
Call Katherine Petros at
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